

The Disaster Industry

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Comes now yet another effort to resurrect Malthus: a relatively recent book by James Kunstler called *The Long Emergency*, with a subtitle which indicates a certain pessimism, *Surviving the Converging Catastrophes of the Twenty-First Century*. The book essentially argues that the fragile scaffolding of our industrial society, from agriculture to unsustainable cities, is erected on the promise of never-ending cheap oil which is now running out. Collapse of social institutions will be exacerbated by natural disasters, including climate change; lack of resources because of our profligate use of them during the past century; disease; diminishing returns on technology; and lack of water. The foundational cause of these coupled catastrophes is the inevitable energy crisis because of falling petroleum stocks; alternative sources such as tar sands, coal, and clathrates are deemed to be unavailable for a number of reasons. The book has received generally favorable reviews, including in places such as *The American Scientist* magazine.



This is not an unfamiliar genre, especially in the environmental science community; one need only remember McKibben's *The End of Nature*, Erlich's *The Population Bomb*, or the Club of Rome's *Limits to Growth*. Given that these doomsday predictions have universally failed, what accounts for the favorable reception to *The Long Emergency*, which seems to ignore this history? Can we make any generic observations?

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To begin with, a basic problem is that these populist treatments generally tend to mistake scenarios for predictions. Scenarios of energy unavailability can be useful in a reflexive sense: it is an important exercise, especially in an increasingly complex world, to think about potential problems and explore the option space of possible responses, and the implications of using them. But as predictions they fail, for the very simple reason that the future—especially with the rapid rate of change we’re experiencing now—is simply unknowable. A dead giveaway in many of these disaster treatises is the way they conceptualize technological evolution: the idea that we’re experiencing diminishing returns on technology just as the nanotechnology, biotechnology, information and communication technology, and cognitive science revolution (the so-called “NBIC convergence”) are just beginning to take off is patently ludicrous. This is just about the worst point in human history to assume the Ecclesiastical “there is nothing new under the sun.”



It is a common fallacy to underestimate the power of technological evolution and, concomitantly, overestimate the challenge of resource depletion. For example, if you go back to the early 1900's in this country, you'll find language similar to Kunstler's used about forests. Teddy Roosevelt at one point predicted that we were going to lose our forests completely because of the demand for timber for the railroads (primarily for ties), and the need to clear land to grow oats to feed horses (a very energy inefficient mode of transport). What

happened, of course, was creosote and automobiles, and a burst of innovation and economic growth that left that worldview in the dust. That doesn't mean that technological optimism is necessarily appropriate—but it does mean that change is going to keep happening, and more quickly than ever before.

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And that leads to a more subtle problem in this sort of book. Think about the mental model that implicitly underlies Kunstler's approach, and a lot of environmental models, such as [The Natural Step](#)—it's a riff on the Second Law, implicitly founded on the concepts of absolute scarcity and energetically closed systems. But human history, although not monotonic by any means, is a continuing story of flexible material inputs to ever more complex societies and economies, and it is a profoundly open system energetically. We have always lived on the edge of chaos, and not just metaphorically. It is virtually axiomatic that if you take an energetically open system of evolving complexity and slap a Second Law assumption on it, you're going to get collapse. In short, these books are a long exercise in circular self-fulfilling logic. The reason that disaster scenarios continue to do so well is that the environmental discourse inclines towards a powerful pessimism, an almost theological belief in limits, and a high degree of skepticism towards technology (e.g., the Precautionary Principle so popular in Europe). That doesn't mean that limits don't exist: of course they do. What it does mean is that complex adaptive systems, such as human cultures, economies, and technologies, are very, very good at adapting to particular limits.

What we really have here is not a Malthusian question, but an economic and technological question: what's the long term supply curve of energy as prices rise and what discontinuities might exist in that supply curve? To the extent we can identify potential problems, such as a difficult transition away from oil to other forms of fossil fuels (perhaps accompanied by the development of technologies that enable scrubbing of ambient carbon dioxide at atmospheric concentrations), how can we create a robust portfolio of options, social as well as technological, to respond? How can NBIC technologies be used to enhance energy efficiency and provide greater resiliency in the system towards unexpected supply and demand shocks? Scenarios that encourage serious thinking about such questions do us a favor, because they feed research and development that can enhance systems resiliency. But we make a serious category mistake if we think they are in any way predictive of the real world. ■